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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,750	01/07/2002	Jason Klivington	4860P2739	3969

8791 7590 06/10/2005

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EXAMINER

AN, SHAWN S

ART UNIT PAPER NUMBER

2613

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/041,750	Applicant(s) KLIVINGTON, JASON	
	Examiner Shawn S. An	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Remarks/Arguments

1. Applicant's arguments with respect to claims 1-15 have been carefully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara et al (5,657,086) in view of Iizuka (5,767,910).

Regarding claims 1 and 11, Tahara et al discloses an apparatus/method comprising:

means for performing an encoding information on a set of data representing a video frame as frame based-data and as field based data to generate arrays of frame based data and arrays of field based data (Fig. 13, elements 200, 201);

means for selecting either the frame based data or field based data based on the number of non-zero coefficients in the frame based data and the field based data (Fig. 13, element 255; abs.); and

means for converting an ordering of the arrays of selected data (58).

Tahara et al does not particularly disclose encoding information on a set of data representing a video frame as both frame based-data and as field based data.

However, Iizuka teaches video signal compression/encoding system comprising means for performing an encoding information on a set of data representing a video frame both as frame based-data and as field based data to generate arrays of frame

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based data and arrays of field based data (Fig. 1, 409; Fig. 4; col. 5, lines 66-67; col. 6, lines 1-13).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing the apparatus/method as taught by Tahara et al to incorporate lizuka's teaching as above as an efficient way to perform the hybrid (both frame and field data) encoding of the transformed coefficients using the single DCT circuit.

Regarding claims 2-3 and 12-13, Tahara et al discloses performing DCT (200, 201) and quantization (57) of results of the DCT operation.

Regarding claims 4 and 14, Tahara et al discloses means for comparing a macroblock of frame based data to a macroblock of field based data (abs.), and means for selecting the macroblock of data having the fewer number of non-zero coefficients (the smallest quantity of data) (abs.; 255).

Regarding claims 5 and 15, lizuka teaches means for performing zig zag conversion wherein an 8 X 8 matrix having an original order (Fig. 1, 408) being converted to having a scanning order of a zig-zag scan (Fig. 2).

4. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara et al (5,657,086) in view of lizuka (5,767,910) Hall et al (5,737,020).

Regarding claim 6, the combination of Tahara et al and lizuka discloses all of the claimed subject matter discussed above with the exception of an article of manufacture comprising a software performing all of the claimed subject matter.

However, a software program performing an encoding operation is well known in the art.

Furthermore, Hall et al teaches that an encoding can be accomplished by hardware or by software (col. 4, lines 1-2).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing the apparatus/method as taught by Tahara et al to incorporate the software program as taught by the Hall et al as an efficient way to encode or compress the transformed coefficients, thereby significantly saving manufacturing/operating costs associated with an expensive hardware.

Regarding claims 7-8, Tahara et al discloses performing DCT (200, 201) and quantization (57) of results of the DCT operation.

Regarding claim 9, Tahara et al discloses means for comparing a macroblock of frame based data to a macroblock of field based data (abs.), and

means for selecting the macroblock of data having the fewer number of non-zero coefficients (the smallest quantity of data) (abs.; 255).

Regarding claim 10, Iizuka teaches means for performing zig zag conversion wherein an 8 X 8 matrix having an original order (Fig. 1, 408) being converted to having a scanning order of a zig-zag scan (Fig. 2).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 571-272-7324.

7. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHAWN AN
PRIMARY EXAMINER



6/08/05